CLAIMS

1. A method of monitoring and controlling data transfer between a user terminal coupled to a first communication network and a second communication network via a gateway and a firewall, said method including the steps of:

sending an access request to said gateway from said user terminal requiring access to said second communication network;

said gateway reading said access request;

modifying at least one access rule in said firewall to permit access for said user terminal requesting access based on an authenticated IP address of said user terminal requesting access;

monitoring simultaneously at said firewall the transfer of data between said user terminal and said second communication network; and

dynamically controlling in real time bandwidth available to said user terminal.

2. The method of claim 1, wherein said dynamic control of bandwidth available to said user terminal occurs whilst maintaining communication of said user terminal with said second communication network.

3. The method of claim 1, wherein a restricted bandwidth is allocated to a single user terminal.

4. The method of claim 1, wherein a restricted bandwidth is shared between a plurality of user terminals.

5. The method of claim 1, wherein bandwidth is restricted for uploading data and/or downloading data.

6. The method of claim 1, wherein a restricted bandwidth is allocated to one or more terminals for a prescribed time period.

7. The method of claim 1, wherein a restricted bandwidth is allocated to one or more terminals on the basis of a priority status allocated to the one or more terminals or a user account.

8. The method of claim 1, wherein the IP address of a user terminal is authenticated on the basis that the user terminal has previously been authenticated by the gateway using an encryption/decryption process.

9. The method of claim 1, further including the step of monitoring all ports of access of said user terminal.

10. The method of claim 1, further including the step of enabling and/or disabling one or more ports of access of a user terminal.

11. The method of claim 1, further including the step of controlling access of a user terminal to the second communication network from a management terminal coupled to the first communication network.

ART 34 AMDT



12. The method of claim 1, further including the step of monitoring a period of time a user terminal has access to the second communication network.

13. The method of claim 1, further including the step of monitoring a quantity of data a user terminal uploads and/or downloads.

14. The method of claim 1, further including the step of monitoring a cost to a user of their user terminal having access to the second communication network.

15. A system for monitoring and controlling data transfer in communication networks, said system comprising:

one or more user terminals coupled to a first communication network;

a second communication network coupled to said first communication network via a gateway and a firewall;

wherein said firewall simultaneously monitors transfer of data between said one or more user terminals and said second communication network for said user terminals having an authenticated IP address that has access to said second communication network and dynamically controls in real time bandwidth available to said one or more user terminals.

16. The system of claim 15, wherein a single machine comprises both the gateway and the firewall.

17. The system of claim 15, wherein the firewall is in a different machine from the gateway.

18. The system of claim 15, wherein authentication of the IP address is carried out by the gateway.

19. The system of claim 18, wherein authentication employs an encryption/decryption process to authenticate a remote terminal.

20. The system of claim 15, wherein the firewall simultaneously monitors all ports of access of one or more of said user terminals.

21. The system of claim 15, wherein a restricted bandwidth is allocated to a single user terminal.

22. The system of claim 15, wherein a restricted bandwidth is shared between a plurality of user terminals.

23. The system of claim 15, wherein a restricted bandwidth is allocated to a user account.

24. The system of claim 15, wherein bandwidth is restricted for uploading data and/or downloading data.

25. The system of claim 15, wherein said dynamic control of bandwidth available to said one or more user terminals occurs whilst maintaining communication of said one or more user terminals with said second communication network.

26. A gateway for monitoring and controlling data transfer in communication networks, said gateway comprising:

a firewall for permitting access to a second communication network for one or more user terminals coupled to a first communication network having an authenticated IP address;

wherein said gateway monitors simultaneously at said firewall transfer of data between said one or more user terminals and said second communication network and dynamically controls in real time bandwidth available to said one or more user terminals.

27. The gateway of claim 26, wherein the firewall simultaneously monitors all ports of access of one or more of said user terminals.

28. The gateway of claim 26, wherein the dynamic control of bandwidth available to said one or more user terminals occurs whilst maintaining communication of said one or more user terminals with said second communication network.

29. The gateway of claim 26, further comprising means for enabling and/or disabling one or more ports of access to each user terminal.